**Meeting with Azra Summary:**

Notes:

* Make deaths/hospitalisations the trigger, not infections (from the branching process, likely want to throw infections forwards in time).
* Make a schematic of the branching process so that we’re illustrating the temporal dynamics of surveillance and detection.
* Unclear currently what to do about NPIs in general – specifically how they should be implemented across both scenarios – should we do the **same** NPIs across both scenarios (even though some of the triggers are based on BPSV delivery and so don’t have a proper “trigger” in a specific-only setting) or should we not be doing this, have a trigger based on specific vaccine only, and then show NPI days or similar?
  + Azra suggested graph with both deaths averted and NPI days on there (two diff axes). I support using the first approach (same NPIs across both scenarios) and offering the framing of “for a certain number of NPI days, as manifested in the specific scenario, here’s the extra deaths you avert when you have a BPSV available”.
* Ask Daniela about her “median demography” country that isn’t a country.
* Go back and re-read the CEPI report and bits that Azra did on SARS-X.

**Fig 1:** Focussing of the primary country (i.e. the source country where spillover initially happens), vary specific vaccine development time (100, ~200 take from CEPI report, and 365) and time to detection (based on hospitalisations/deaths, generated via the branching process). Aim here is to illustrate the use-case for the BPSV in source country – potentially do this for a small range of NPIs (3 scenarios) and R0s (max 3 values – probably 1.5 or 2, 2.5 and 3.5). Also have a schematic in there for how we’re modelling detection and subsequent initiation of different events (e.g. detection, delay to start vaccination campaign, vaccination campaign, development of specific vaccine, specific campaign finishes etc – have two epidemic curves, one slow one fast on this to illustrate the comparative timing of these different events relative to epidemic progression). Possibly that schematic can be an entirely separate figure (TBD). R0, NPI, detection time and specific vaccine start are all determinants of epidemic progression and degree of epidemic progression when the specific vaccine becomes available.

***Possible jujj up the NPI figure and make that it’s own figure in here (/in the above Fig 1).***

**Fig 2:** Sensitivity analyses for vaccine properties plot – showing how delay to protection, duration of protection and R0/NPIs implemented all influence deaths averted and relative utility of the BPSV relative to not having it available – this is all in the source country.

**Fig 3:** Illustration of the relative impact of the BPSV in the source country vs a secondary country where importation occurs early and spread is comparatively advanced, and a secondary country where importation occurs later and spread is comparatively minimal. I don’t have a good sense yet of whether it makes sense to have three discrete categories here, or to vary time to detection/seeding cases/epidemic progression at commencement of vaccination. Primary = source country, secondary early = e.g. shares border, secondary late = e.g. Australia and border closes. Will need to think about how to generate seeding cases for each of these. Maybe just multiplicative factor for number of seeding infections in primary country at time of detection. **Initiation of vaccine campaign (both BPSV and specific development) relative to pathogen arrival (i.e. vaccine campaign – pathogen arrival) as the x-axis I think could be a nice one here?**

* Perhaps both – a potential plot = cumulative incidence @ BPSV vaccination commencement = x-axis vs deaths averted. Plot for several R0s and specific vaccine development times and show primary vs secondary early vs secondary late results on this graph. Then potentially have some bar plots on the right hand side of this graph taking a vertical slice of this graph and plotting out for each R0/primary vs secondary early/late combo.

**Fig 4:** Illustration of factors that are relevant to income strata – things like demography, time-to-detection, vaccination campaign rollout speed and size of stockpile maintained beforehand. Unclear to me whether we want to make this a “features of the response” figure and have time-to-detection, vaccination campaign rollout speed, size of stockpile and NPIs as its own figure, and have a separate one for demography.

**Fig 5:** If we don’t want to elide Fig 4 “features of the response” and “income strata”, this income strata figure could look at healthcare capacity, demography etc (?).

**I just need to go and make all of these now.**